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Commission on the Status of Women
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Follow-up to the Fourth World Conference on Women and to the twenty-third special session of the General Assembly, entitled "Women 2000: gender equality, development and peace for the twenty-first century": implementation of strategic objectives and action in critical areas of concern and further actions and initiatives; review theme: access and participation of women and girls in education, training and science and technology, including for the promotion of women's equal access to full employment and decent work

The transition of women from education to full employment and decent work, with a particular focus on employment in the areas of science, technology, engineering and mathematics

Moderator's summary

1. On 18 March 2014, the Commission on the Status of Women held an interactive dialogue to review progress in implementing the agreed conclusions on the theme "Access and participation of women and girls in education, training and science and technology, including for the promotion of women's equal access to full employment and decent work", adopted by the Commission at its fifty-fifth session in 2011 (see E/2011/27-E/CN.6/2011/12).

2. In the 2011 agreed conclusions, the Commission adopted a set of recommendations for action in six key areas: (a) strengthening national legislation, policies and programmes; (b) expanding women's and girls' access and participation in education; (c) strengthening gender-sensitive quality education and training, including in the field of science and technology; (d) supporting the transition from education to full employment and decent work; (e) increasing retention and progression of women in science and technology employment; and (f) making science and technology responsive to women's needs.

3. The interactive dialogue was organized in the form of two panel discussions. The first panel discussion, held on 18 March 2014 in the morning, focused on areas (a) to (c) and specifically on women and girls in science, technology, engineering

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and mathematics (STEM) education (see the Moderator's summary in E/CN.6/2014/INF/7). The second panel discussion, held on 18 March in the afternoon, focused on areas (d) to (f) and specifically on women in STEM employment; and making science and technology responsive to women's and girls' needs and priorities.

4. The panel discussion was moderated by the Vice-Chair of the Commission, Neli Shiolashvili (Georgia). The panellists were: the Counsellor at the Permanent Mission of the United Arab Emirates, Hind Alowais, on behalf of Dr. Lamya Fawwaz, Executive Director of Public Affairs at the Masdar Institute of Science and Technology (United Arab Emirates); and the John L. Hinds Professor of History of Science, Stanford University, Londa Schiebinger (United States of America). An issues paper provided the framework for the discussion. Representatives of 12 Member States, one regional organization (European Union) and one non-governmental organization participated in the interactive dialogue. Closing remarks were made by the Assistant Secretary-General of the United Nations and Deputy Executive Director of UN-Women Lakshmi Puri.

5. Participants emphasized the need to assess and consider women's and girls' access to, and participation in, STEM education and employment from a value chain approach where each node in the chain — education, training, capacity-building, employment and leadership — added value to both women and girls as individuals, as well as to broader society. Therefore, serious attention needed to be paid to the recruitment, retention and promotion of women and girls in STEM education and employment.

6. Employment opportunities in STEM-related fields were on the rise. For example, projections for the solar and wind energy sectors showed that about 8.4 million jobs would need to be filled by 2030 with the expansion of those sectors. In addition, 2.5 million engineers and technicians would be needed to improve access to clean water and sanitation in sub-Saharan Africa. In the next few years, 90 per cent of formal sector jobs would require skills in information and communication technologies. In the light of that projected increase in STEM-related employment opportunities — in addition to the trend towards the automation of lower skilled jobs where women constituted the majority of workers — strategic attention needed to be given to aligning women's current skill sets with the new requirements for STEM-related employment. Expanding women's skills would help to ensure that women did not bear the brunt of job losses in some sectors and that they were eligible for jobs in those emerging sectors.

7. Despite important gains for women in secondary and higher education, women continued to face difficulties in accessing employment and decent work, in particular in STEM-related fields. Participants noted that while the number of women graduates in higher education had increased across all regions, only a fraction had the opportunity to pursue STEM careers, with certain groups of women, such as rural, indigenous and older women, having been excluded from STEM education and employment opportunities altogether. Participants highlighted current institutional frameworks and structures as key barriers to women's full participation in STEM-related fields. In order to rectify that challenge, participants called for targeted public policies and programmes in order to ensure an effective and sustainable transition for women from education to employment in a wider array of sectors. Participants pointed out that the solution was not merely to "fix the numbers

of women and girls in STEM", but rather to build and transform STEM institutions so as to ensure that they were gender-responsive.

8. Participants emphasized the need for new legislative and policy measures to redesign the workplace and make it "fit the people" rather than make "people fit the workplace". Such a shift would require long-term and inclusive approaches to career development where employees could avail themselves of parental leave and flexible work schedules without sacrificing their careers. Many of the STEM-related fields, including medicine, were recognized as particularly rigid in terms of workplace environment and therefore in need of fundamental changes. Participants cited good practices where, through the reprioritization of government initiatives and changes to decision-making processes, steps had been taken to establish paid maternity, paternity and parental leave, work-life balance, and equal pay for equal work for both women and men. Other successful initiatives included nationwide work-life balance campaigns to change corporate culture and perceptions around balancing personal and professional priorities and to promote "smarter" workplaces.

9. Such institutional measures notwithstanding, real and lasting systemic change also required a bottom-up approach with actions taken at the school, community and family levels. Participants pointed to the key role of families and societies in supporting women's and girls' career choices and advancement in STEM. In several countries, initiatives targeted parents and other family members to raise awareness about the linkages between education and increased income opportunities, which had resulted in enhanced school enrolment of girls. In combination with other support systems, such as internships and mentoring programmes, those approaches had led to exponential increases in women's enrolment in higher STEM education as well as women's employment in the public and private sectors and in academia.

10. Participants noted that, owing to persisting economic challenges in many countries, public employment creation remained limited. As a result, increased private sector engagement was required not only to provide women with employment and decent work opportunities in STEM-related fields, but also to promote women's participation in the workplace and reduce the gender gap in certain sectors. In some countries, private sector companies, especially those in STEM-related fields, had been provided with incentives such as tax benefits and reduced social security contributions for hiring more young women, establishing gender equality policies and protecting the rights of women in the workplace.

11. Women often faced challenges in stepping into professional environments and fields that were strongly associated with men and in which they often lacked access to established networks. Participants highlighted successful initiatives to prepare women for entry into the labour market and, in particular, into STEM-related sectors. They cited examples of programmes where universities and public and private sectors were working together to provide young women with internships, job placement opportunities, career guidance, and support in building confidence and skills to prepare résumés and job applications and succeed in interviews. While noting the importance of role models and mentoring, participants found that those good practices were often underutilized, although they could have a powerful ability to foster young women's entry, retention and progress in STEM careers and to overcome gender biases and stereotypes in those fields. Other good practices and promising initiatives shared by participants included media campaigns and awards highlighting women's achievements in STEM and contributions to society.

12. Participants discussed the need to ensure that STEM content and the related knowledge that emerged out of those fields responded to the needs of both women and men, and that women fully reaped the benefits of scientific and technological developments and innovations. STEM-related sectors therefore must implement structural changes in order to appeal to women and girls as viable opportunities for education and employment. To that end, there was a need for gender analysis of the education system and its curricula, of scientific and technology research and their journals, and grant agencies and their funding modalities. All stakeholders and multiple sectors needed to be engaged towards enhancing women's participation in those sectors.

13. Participants reiterated the need for improved reflection of the end-user point of view in STEM. They highlighted the value of using STEM to solve real world and pressing problems, identified by women and girls, and as a way to interest and engage them in those sectors. One example would be the engagement of caregivers when designing assistive technology for the elderly. Use of methodologies like end-user focus groups, participatory action research and pursuing diversity strategies were encouraged. Access to technology, and technology transfer, could also be disconnected from women's needs when devised without due consideration to women's capacities to own, adapt and apply certain technologies.

14. Women's access to and use of information and communication technologies had the potential to be game-changers for gender equality and women's empowerment. Participants shared progress in promoting affordable and reliable access to technology as well as digital literacy training. As a result, women had greater capacity to use technology that increased their safety, connected them with content such as price information, weather forecasts and online information platforms, and provided services such as legal, social and health services. Information and communication technologies were also important for women entrepreneurs and could help them to connect with mentors and networks, compete in global markets, and provide the flexibility to run their businesses from the home. An increasing number of business women designed and developed technological innovations and new information and communication technology applications. Yet participants acknowledged that millions of women and girls, especially in rural areas, still had insufficient or no access to information and communication technologies.

15. Participants made recommendations for implementation of strategies to increase the participation of women and girls in science and technology. Among them was a recommendation to establish a global forum for both STEM producers and end-users with a view to ensuring that STEM supported gender equality and women's empowerment. Participants also urged that the sustainable development goals and the post-2015 development agenda should reflect and incorporate gender equality and women's and girls' access to, and participation in, STEM-related education and employment, in its actions, accountability, investments and resource mobilization. Innovations and development in science and technology must benefit and take into account women's and girls' needs.

16. Participants emphasized that the 20-year review of the implementation of the Beijing Declaration and Platform for Action presented opportunities to further deepen the review and accelerate actions to ensure women's and girls' access to STEM education and employment, and their enjoyment of benefits of science and technology.